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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/974,827	10/12/2001	Atsushi Yokoyama	31581-175829	8275

26694 7590 04/05/2006

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EXAMINER	
LEE, ANDREW CHUNG CHEUNG	
ART UNIT	**PAPER NUMBER**
2616	

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/974,827	YOKOYAMA ET AL.	
	Examiner	Art Unit	
	Andrew C. Lee	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4,6 and 9* is/are rejected.

7)☒ Claim(s) *5,7 and 8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims **1**, 3, 6, **9** are rejected under 35 U.S.C. 102(e) as being anticipated by Kramer et al. (U.S. Patent No. 6658027 B1).

Regarding **claims 1, 9**, Kramer et al. disclose the limitation of a quality control device for voice packet communications for transmitting voice packets through a quality non-assurance type network (Fig. 1, element 100, recited local receiver with Jitter Buffer manager, element 50 recited IP Network as non-assurance network, column 3, lines 53 – 59), the device comprising a buffer memory for temporarily storing voice packets received through the network and forming a queue of the received voice packets (Fig. 2, element 120, column 3, lines 59 – 61, recited frames are then stored temporarily in a jitter buffer); queue operating means for operating the queue in accordance with an operation control signal to be supplied (Fig. 1, element 140, column 3, line 60 – 61; recited jitter buffer manager as queue operating means; column 4, lines 57 – 62); sequence examining means for examining like voice-absencel properties of a sequence of voice information contained in a plurality of voice packets that constitute the queue

stored in the buffer memory (Fig. 2, elements 240, 250; recited frame input process and frame output process as sequence examining means; column 4, lines 57 – 58; column 5, lines 39 – 54); and operation control means for changing the operation control signal in accordance with an examination result of the sequence examining means (column 5, lines 29 – 36, recited jitter buffer manager together with frame input process and frame output process as operation control means, jitter buffer depth as buffer length, high water mark and Low water mark and desired jitter as operation control signal), where said operation control means includes an operation position determining portion for determining an operation position corresponding to voice packets having like-voice absence properties (column 8, lines 45 – 49; recited silence detected signal as voice packets having like-voice absence properties; column 9, lines 35 – 39, silence frame), being dispersed onto the queue and outputting an operation position specifying signal as the operation control signal by the use of an examination result of the sequence examining means (column 9, lines 29 – 43,recited the frame output process responsible for the insertion and deletion of frames), and said queue operating means includes a deletion operation portion for deleting from the queue voice packets having like-voice absence properties (column 9, lines 35 – 43, recited a silence frame as voice packets having like-voice absence properties, discards it on the assumption that next frame will also be a silent frame).

Regarding **claim 3**, Kramer et al. discloses the limitation of the quality control device of claim 1, further comprising: threshold managing means for managing an upper limit threshold set at least on an upper limit side with respect to a length of the queue

(Fig. 2, column 5, lines 4 – 16, element "high Water Mark" as upper limit threshold, jitter buffer depth as length of the queue); and queue length monitoring means for monitoring a relationship between a length of the queue and the upper limit threshold (Fig. 2, elements 230, 240, 250; column 5, lines 52 – 54, recited frame input process also detects if the jitter buffer depth (as length of the queue) has reached the high water mark); wherein: the sequence examining means includes: a decoding importance detecting portion for detecting decoding importance that is an importance degree when each voice packet is decoded by examining a sequence of voice information contained by a plurality of voice packets that constitute a queue stored in the buffer memory (column 5, lines 37 – 49, recited frame will be inserted in the next available slot in the buffer depening on the sequence number of the received frame); and a decoding importance storing portion for temporarily storing the decoding importance detected by the decoding importance detecting portion in correspondence with each voice packet that constitutes the queue (column 3, lines 31 – 34; lines 59 – 61; column 5, lines 39 – 52, recited the sequence number of the received frame and the sequence number of frames in the jitter buffer as decoding importance detection portion); and the queue operating means includes: a priority deletion operating portion for preferentially deleting a voice packet assigned to decoding importance whose importance degree is low from the queue when the queue length monitoring means detects that the queue is longer than the upper limit threshold (column 5, lines 52 – 59, recited detect the jitter buffer depth has reached the high water mark initiating a frame removal process, the frame removal process deletes one frame at a time unit the desired jitter level is reached).

Regarding claim 6, Kramer et al. disclose the limitation of the quality control device of claim 1, further comprising: lower limit threshold managing means for managing a lower limit threshold set on a lower limit side with respect to a length of the queue (Fig. 2, column 5, lines 4 – 16, element "low Water Mark" as lower limit threshold, jitter buffer depth as length of the queue); and queue length/lower limit monitoring means for monitoring a relationship between a length of the queue and a lower limit threshold (Fig. 2, elements 230, 240, 250; column 6, lines 24 – 32, recited frame output process also detects if the jitter buffer depth (as length of the queue) has reached the lower water mark (as lower limit threshold); wherein the queue operating means includes lower limit correspondence insertion operating portion for inserting a complementary voice packet that contains predetermined voice information so as to be dispersed onto the queue when the queue length/lower limit monitoring means detects that the queue is shorter than the lower limit threshold (column 6, lines 24 – 32; recited initiating a silence frame insertion; column 10, lines 1 – 10).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kramer et al. (US 6658027 B1) in view of Rabenko et al. (US 6765931 B1).

Regarding claim 4, Kramer et al. disclose the limitation of a quality control device for voice packet communications for transmitting voice packets through a quality non-assurance type network (Fig. 1, element 100, recited local receiver with Jitter Buffer manager, element 50 recited IP Network as non-assurance network, column 3, lines 53 – 59), Kramer et al. does not disclose expressly the limitation of the quality control device of claimed further comprising dual-talk duration extension/contraction tendency detecting means for detecting an extension/contraction tendency of a length of dual-talk duration during which both the voice signal on the voice reception path and the voice signal on the voice transmission path reach a state of voice presence by making a voice presence/absence judgement for a voice signal on a voice reception path corresponding to a transmission direction of a voice packet that constitutes the queue and a voice signal on a voice transmission path opposite to the direction where a voice is received; threshold managing means for managing an upper limit threshold set at least on an upper limit side with respect to a length of the queue; first upper limit threshold changing means for changing the upper limit threshold; and queue length monitoring means for monitoring a relationship between a length of the queue and an upper limit threshold; wherein the first upper limit threshold changing means changes the upper limit threshold in accordance with an extension/contraction tendency detected by the dual-talk duration extension/contraction tendency detecting means. Rabenko et al. disclose the limitation of the quality control device of claimed further comprising dual-talk duration extension/contraction tendency detecting means (column 32, lines 14 – 35, Fig. 19, element 568, Double-talk algorithm) for detecting an

extension/contraction tendency of a length of dual-talk duration during which both the voice signal on the voice reception path and the voice signal on the voice transmission path reach a state of voice presence by making a voice presence/absence judgement for a voice signal on a voice reception path corresponding to a transmission direction of a voice packet that constitutes the queue and a voice signal on a voice transmission path opposite to the direction where a voice is received (column 32, lines 14 – 35, recited far end and near end transmission paths; column 33, lines 15 – 23; lines 31 – 39 ; Fig. 20, element 580, "Rx Data" path, "Tx Data" path); threshold managing means (Fig. 20A, element 580, double talk logic) for managing an upper limit threshold set at least on an upper limit side with respect to a length of the queue; first upper limit threshold changing means for changing the upper limit threshold (column 34, lines 45 - 67); and queue length monitoring means for monitoring a relationship between a length of the queue and an upper limit threshold (column 34, lines 44 – 67; column 35, lines 40 – 50); wherein the first upper limit threshold changing means changes the upper limit threshold in accordance with an extension/contraction tendency detected by the dual-talk duration extension/contraction tendency detecting means (Fig. 34, element 1164, Max Voice (maximum threshold of comfort zone); column 34, lines 44 – 67; column 35, lines 1 – 11; lines 46 – 50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kramer et al. to include a quality control device of claimed further comprising dual-talk duration extension/contraction tendency detecting means for detecting an extension/contraction tendency of a length of dual-talk duration during which both the voice signal on the voice reception path and the voice signal on the voice transmission path reach a state of voice presence by making a voice presence/absence judgement for a voice signal on a voice reception path corresponding to a

transmission direction of a voice packet that constitutes the queue and a voice signal on a voice transmission path opposite to the direction where a voice is received; threshold managing means for managing an upper limit threshold set at least on an upper limit side with respect to a length of the queue; first upper limit threshold changing means for changing the upper limit threshold; and queue length monitoring means for monitoring a relationship between a length of the queue and an upper limit threshold; wherein the first upper limit threshold changing means changes the upper limit threshold in accordance with an extension/contraction tendency detected by the dual-talk duration extension/contraction tendency detecting means such as that taught by Rabenko et al. in order to provide a method of canceling a far end echo from a near end signal including adaptively filtering a far end signal based on adaptation coefficients, detecting whether voice is present on the near end signal, holding the adaptation coefficients constant when voice is present, and canceling the echo from the near end signal after the adaptation coefficients are held constant (as suggested by Rabenko et al. column 1, lines 39 – 45).

Allowable Subject Matter

5. Claims 5, 7, 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments filed on 12/22/2005 with respect to claims 1, 3,4,5,6,7,8,9 have been fully considered but they are not persuasive.

(A) Regarding claim 1, page, 16 lines 18 – 19, page 17, lines 1-2, Applicant argued that reference Kramer et al. do not disclose infer queue operating means that include a deletion operating portion for deleting from the queue voice packets having like-voice absence properties, being dispersed onto the queue which correspond to an operation position on the queue according to the operation position specifying signal being supplied.

In response, Examiner maintains reference Kramer et al. disclose infer queue operating means that include a deletion operating portion for deleting from the queue voice packets having like-voice absence properties being dispersed onto the queue which correspond to an operation position on the queue according to the operation position specifying signal being supplied. (Examiner interprets "frame output process" as queue operating means, see column 9, lines 29 – 37, and "the frame output process responsible for the insertion and deletion of frames when required " as deletion operation portion , see column 9, lines 35 – 43 , and "silence frame " as voice packets having like-voice absence properties , "if a silence frame is detected" as according to the operation position specifying signal being supplied; see also column 9, lines 47 – 55).

(B) Regarding claim 1, page 17, lines 5 – 8, Applicant also argued that reference Kramer et al. do not disclose sequence examining means that examine like voice-absence properties of a sequence of voice information contained in a plurality of voice packets that constitute the queue stored in the buffer memory.

In response, Examiner maintains reference Kramer et al. disclose sequence examining means for examining like voice-absence properties of a sequence of voice information contained in a plurality of voice packets that constitute the queue stored in the buffer memory. (Examiner

interprets "Fig. 2, elements 240 Frame input process controlling the high threshold and desired value of the Jitter buffer, element 250, Frame output process controlling the low threshold of the Jitter buffer and frame input process determining whether the received sequence number is less than the expected sequence number of the next frames" as sequence examining means , see column 7, lines 50 – 67, and "signal from the voice activity detector indicating that a silence frame" as like voice-absence properties).

(C) Regarding claims 4, 5, page 18, lines 7 – 15, Applicant further argued that Rabenko et al. fails to supplement the deficiencies of Kramer et al., and Rabenko et al. do not teach or suggest infers queue operating means that include a deletion operating portion for deleting from the queue voice packets having like-voice absence properties, being dispersed onto the queue which correspond to an operation position on the queue according to the operation position specifying signal being supplied, and sequence examining means that examine like voice-absence properties of a sequence of voice information contained in a plurality of voice packets that constitute the queue stored in the buffer memory.

In response, Examiner maintains reference Kramer et al., do teach (but not Rabenko et al.) or suggest (as addressed in previous two paragraphs) infers queue operating means that include a deletion operating portion for deleting from the queue voice packets having like-voice absence properties, being dispersed onto the queue which correspond to an operation position on the queue according to the operation position specifying signal being supplied. (Examiner interprets "frame output process" as queue operating means, see column 9, lines 29 – 37, and "the frame output process responsible for the insertion and deletion of frames when required " as

deletion operation portion , see column 9, lines 35 – 43 , and "silence frame " as voice packets having like-voice absence properties, "if a silence frame is detected" as according to the operation position specifying signal being supplied; see also column 9, lines 47 – 55), and sequence examining means that examine like voice-absence properties of a sequence of voice information contained in a plurality of voice packets that constitute the queue stored in the buffer memory (Examiner interprets "Fig. 2, elements 240 Frame input process controlling the high threshold and desired value of the Jitter buffer, element 250, Frame output process controlling the low threshold of the Jitter buffer and frame input process determining whether the received sequence number is less than the expected sequence number of the next frames" as sequence examining means , see column 7, lines 50 – 67, and "signal from the voice activity detector indicating that a silence frame" as like voice-absence properties).

Examiner respectfully contends that reference Rabenko et al. provide to supplement the deficiencies of Kramer et al. for the limitation of dual-talk or double talk.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ACL

March 21, 2006

RICKY Q. NGO
SUPERVISORY PATENT EXAMINER